

USSR

SKURATOVSKIY, A. S., and GUBATYUK, P. V., Fiziologicheskii Zhurnal, Vol 17,  
No 2, Mar/Apr 71, pp 276-277

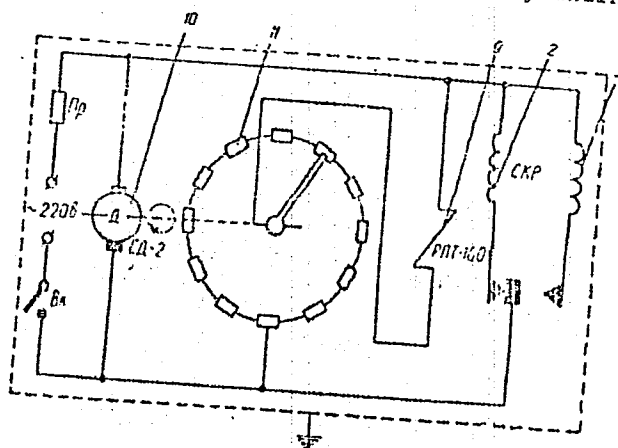


Illustration 2. The principal electric scheme of the automatic regulator  
of artificial respiration  
5/6

USSR

SKURATOV'S'KIY, A. S., and GUBATYUK, P. V., Fiziologichnyi Zhurnal, Vol 17,  
No 2, Mar/Apr 71, pp 276-277

The device described was tested by us in a number of instances and all cases produced the desired results. It may be said, therefore, that the device is characterized by simplicity, and what is important in reanimation, by its dependability when in operation. The entire device, with the exception of the respiration cuff, is outside of the chamber, making safe its operation in the chamber under conditions of elevated oxygen pressure. The device can be recommended for the administration of artificial respiration when necessary in large and small size chambers under conditions of elevated gas pressure within the chamber.

1/2 042

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--CONTROL OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION ENGINES  
-U-

AUTHOR--(021)-SKURIDIN, A.A., MIKHEYEV, YE.M.

COUNTRY OF INFO--USSR

SOURCE--CONTROL OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION  
ENGINES (BOR'BA S SHUMOM I VIBRATSIYEV SUDOVYKH DVS) LENINGRAD,  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--INTERNAL COMBUSTION ENGINE, VIBRATION DAMPING, DIESEL ENGINE,  
SHIP NOISE, SHIPBUILDING ENGINEERING, NOISE REDUCTION, MONOGRAPH,  
STRUCTURE VIBRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3009/0319

STEP NO--UR/0000/70/000/000/0001/0224

CIRC ACCESSION NO--AM0139136

UNCLASSIFIED

2/2 042  
CIRC ACCESSION NO--AM0139136  
ABSTRACT/EXTRACT--(U) GP-0-  
FUNDAMENTALS OF ACOUSTICS 3. II MAIN SOURCES OF NOISE AND VIBRATIONS  
OF SHIP INTERNAL COMBUSTION ENGINES. NATURE OF NOISE FORMATION 37.  
III METHODS FOR CONTROL OF NOISE AND VIBRATIONS OF SHIP DIESELS AT THE  
SOURCE 119. IV METHODS FOR REDUCTION OF NOISE AND VIBRATIONS OF  
INTERNAL COMBUSTION ENGINES ON SHIPS 160. THE BOOK DEALS WITH CONTROL  
OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION ENGINES. IT WAS  
WRITTEN FOR SPECIALISTS WORKING ON NOISE REDUCTION ON SHIPS, AS WELL AS  
EMPLOYEES OF THE DIESEL CONSTRUCTION INDUSTRY.

UNCLASSIFIED

PROCESSING DATE--04DEC70

UNCLASSIFIED

1/3 050  
TITLE--SPACE, A SCIENTIFIC LABORATORY, FEATURE ARTICLE ON VALUE OF SPACE  
PROGRAM--U-  
AUTHOR--SKURIDIN, G. (131) 5  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, AVIATSIYA I KOSMONAVTIKA, NO 4, 1970, PP 34-36  
DATE PUBLISHED--70  
SUBJECT AREAS--METHODS AND EQUIPMENT, NAVIGATION, SPACE TECHNOLOGY  
TOPIC TAGS--IR PHOTOGRAPHY, RADIO EMISSION, SPACEBORNE EARTH PHOTOGRAPHY,  
TV PHOTOGRAPHY, COLOR PHOTOGRAPHY  
CENTRAL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3005/0572  
CIRC ACCESSION NO--AP0132746  
STEP NO--UR/0209/70/000/004/0034/0036  
UNCLASSIFIED

2/3 050

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132746  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PHOTOGRAPHS OF THE EARTH'S SURFACE TAKEN SIMULTANEOUSLY IN VISIBLE AND INFRARED LIGHT MAKE POSSIBLE A FAR MORE COMPLETE STUDY OF THE CHARACTERISTICS AND PROPERTIES OF DIFFERENT SECTORS OF THE EARTH'S SURFACE. THE IMAGES OBTAINED AT STILL LONGER WAVELENGTHS IN THE INFRARED REGION OF THE SPECTRUM ARE THERMAL MAPS OF THE TERRAIN. THEY REFLECT THE CHARACTERISTICS OF TEMPERATURE DISTRIBUTION OF THE EARTH'S SURFACE. THE THERMAL RADIO EMISSION OF THE SURFACE PASSES THROUGH CLOUDS AND CAN BE REGISTERED BY A SATELLITE. THIS IS IMPORTANT BECAUSE THE EARTH IS ALWAYS MORE THAN HALF COVERED BY CLOUDS. MOREOVER, TO A CERTAIN DEGREE RADIO EMISSION MAKES IT POSSIBLE TO PENETRATE INTO THE EARTH'S UPPER LAYER, WHEREAS ORDINARY PHOTOGRAPHS SHOW ONLY ITS SURFACE. THE USE OF A COMBINATION OF IMAGES FROM ORDINARY PHOTOGRAPHS, TOGETHER WITH IMAGES OBTAINED BY PASSIVE AND ACTIVE RADAR, AFFORDS EXCEPTIONALLY BROAD POSSIBILITIES FOR STUDYING THE EARTH'S NATURAL RESOURCES. SPACE PHOTOGRAPHS OR TELEVISION IMAGES CAN BE USED IN TRACING ZONES COVERED BY SNOW, STUDY THEIR DYNAMICS AND THEREBY OBTAIN DATA NECESSARY FOR PREDICTING FLOODS AND EVALUATING MOISTURE RESERVES. A RADAR SURVEY YIELDS INFORMATION NOT ONLY CONCERNING THE DISTRIBUTION OF ARCTIC ICE, BUT ALSO CONCERNING THE THICKNESS OF THE ICE COVER. ALL THIS IS IMPORTANT MATERIAL FOR EVALUATING ICE CONDITIONS AND DETERMINING SAFER NAVIGATION ROUTES FOR VESSELS IN THE ARCTIC. THE USE OF SPACE VEHICLES FOR INVESTIGATING THE OCEAN SURFACE TEMPERATURE, SEA CURRENTS, WAVES, OCEAN FLORA AND FAUNA IS OF GREAT INTEREST.

UNCLASSIFIED

3/3 050

UNCLASSIFIED

PROCESSING DATE—20NOV70

CIRC ACCESSION NO--AP0132746

ABSTRACT/EXTRACT—INFRARED OR RADIOTHERMAL IMAGES OF THE OCEAN SURFACE MAKE IT POSSIBLE TO CHARACTERIZE TEMPERATURE DISTRIBUTION. PHOTOGRAPHS OF WATER BASINS TAKEN IN DIFFERENT PARTS OF THE SPECTRUM REVEAL DIFFERENT OPTICAL INHOMOGENEITIES ASSOCIATED WITH FLORA AND FAUNA. RADIO WAVELENGTH IMAGES YIELD INFORMATION ON THE HEIGHT OF WAVES. THE PRESENCE OF PLANKTON IS REVEALED BY THE OPTICAL PROPERTIES OF WATER AND SINCE SCHOOLS OF FISH CONCENTRATE IN PLANKTON AREAS, SATELLITE DATA ARE VALUABLE TO THE FISHING INDUSTRY. FISH MIGRATIONS CAN ALSO BE TRACED. COLOR PHOTOGRAPHS OF THE EARTH'S SURFACE YIELD HIGHLY VALUABLE GEOLOGICAL DATA. THEY PROVIDE INFORMATION ON SOIL MOISTURE CONTENT, SOIL EROSION AND CONTAMINATION. THE COMPOSITION AND CONDITION OF VEGETATION CAN BE INTERPRETED FROM THE SOLAR RADIATION WHICH IT REFLECTS. THE SAME APPLIES TO DIFFERENT PHASES IN THE DEVELOPMENT OF VEGETATION AND CROPS. IT IS EVIDENTLY POSSIBLE TO ESTIMATE CROP YIELDS. SPACE PHOTOGRAPHS HAVE A HIGH INFORMATION CONTENT FOR GEOPHYSICS, HYDROGEOLOGY, GLACIOLOGY, GEOBOTANY AND OTHER FIELDS. THIS IS OF PARTICULAR IMPORTANCE FOR POORLY STUDIED PARTS OF THE EARTH. IT IS BECOMING INCREASINGLY CLEAR THAT SPACE PHOTOGRAPHY IS THE MOST ECONOMIC MEANS FOR EVALUATING NATURAL RESOURCES AT A PLANETARY SCALE.

UNCLASSIFIED

1/2 034

TITLE--THEORY OF A MODELING EXPERIMENT FOR ELECTRON DIFFUSION IN A TRAP  
WITH MAGNETIC MIRRORS -U-  
AUTHOR--(02)-SKURIDIN, G.A., CHESALIN, L.S.

UNCLASSIFIED

PROCESSING DATE--13SEP70

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKIE ISSLEDOVANIYA, VOL. 8, JAN.-FEB. 1970, P 98-103

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETIC MIRROR, MODEL THEORY, PERTURBATION, NUMERIC  
INTEGRATION, ELECTRON MOBILITY, ELECTRON TRAP, DIFFUSION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1980/0146

STEP NO--UR/0293/70/003/000/0093/0103

CIRC ACCESSION NO--AP0048438

UNCLASSIFIED



2/3 034

CIRC ACCESSION NO--AP0048438

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL STUDY OF ELECTRON DIFFUSION IN A TRAP WITH MAGNETIC MIRRORS IN THE PRESENCE OF PULSED FIELD PERTURBATIONS. THE UNPERTURBED FIELD WAS AXIALLY SYMMETRIC, AND THE RISE TIME OF THE NONAXISYMMETRIC DISTURBANCE UNTIL ITS MAXIMUM VALUE WAS EQUAL TO THE DECAY TIME AND WAS SEVERAL TIMES LESS THAN THE ELECTRON DRIFT ROTATION PERIOD. DIFFUSION COEFFICIENTS WERE DETERMINED BY NUMERICAL INTEGRATION OF THE DRIFT EQUATION. THEORETICAL RESULTS ARE IN GOOD AGREEMENT WITH MEASURED DATA, INDICATING A VALIDITY OF THE THEORY IN SPITE OF THE DRIFT APPROXIMATION UTILIZED.

UNCLASSIFIED

USSR

UDC 681.3.002:513.5

IBRAGIMKHODZHAYEV, S. A., SKURIDIN, V. P.

"Geometric Language and Possibilities of Its Application in Information Retrieval Systems"

UzSSR Finlar Akad. akhboroti. Tekhn. fanlari ser., Izv. AN UzSSR. Ser. tekhn. n. (News of the Uzbek SSR Academy of Sciences, Technical Sciences Series), 1970, No 4, pp 64-65 (from RZh-Avtomatika, Telemekhanika i Vychislitel'nava Tekhnika, No 2, Feb 71, Abstract No 2B86)

Translation: The possibility of using functional diagrams as descriptors in information retrieval systems is discussed. The bibliography has 5 entries.

USSR

UDC 518.5:681.3.06

DRYMALYK, Ya. P., SKURIKHIN, V. I.

"Automated Systems of Planning (ASPRO)"

1-YA Nauchno-tekhn. Konferentsiya Spets. Konstrukt. Byuro Mat. Mashin i Sistem [First Scientific and Technical Conference of the Special Design Bureau for Mathematical Machines and Systems -- Collection of Works], Kiev, 1970, pp 92-107 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V 684 by I. Shelikhova).

Translation: The principles of design and most important characteristics of an automated planning system (ASPRO), the main system in a complete, automated control system (KASU) are discussed. The ASPRO is a combination of technical devices, mathematical methods, program apparatus and planning systems based on a single information basis. Its specifics include: specialized (peripheral) devices for input and output of data as drawings and graphs; intensive utilization of man-machine dialogue; continuous and active participation of man in the creation of products; sequential, step-by-step planning, iterative in nature; optimization of the last step. The process of planning with selection of a description of the diagram of the sequence of stages and operations occurring upon creation and introduction of a new technical device to production is analyzed. A block diagram

1/2

- 64 -

USSR

UDC 518.5:681.3.06

DRYMALYK, Ya. P., SKURIKHIN, V. I., 1-YA Nauchno-tekhn. Konferentsiya Spets. Konstrukt. Byuro Mat. Mashin i Sistem, Kiev, 1970, pp 92-107.

of the APROS devices and diagrams describing its software (external languages, translators, information subsystems) are presented.

2/2

SKURIKHINA, L. A.

LATEST DEVELOPMENTS IN UHF-THERAPY DOSIMETRY PROCEDURES  
Article by L. A. Skurikhina and O. V. Shchegolevskiy of the Central  
Scientific Research Institute of Health-Resort Therapy and Physio-  
Medical Institute of the All-Union Scientific Research Institute of  
Russian No 5, 1973, pp 10-15. aimed to press 1 September 1973.  
UDC 615.046.015.31

JPRS 69754  
12 December 1973

The effect of an ultrahigh-frequency electrical field on  
the organism for therapeutic purposes (UHF-therapy) proved it-  
self a long time ago as one of the most effective means for  
treating acute and chronic inflammatory processes, including  
suppurative processes, postoperative inflammations, including  
pyelitis, and a number of other conditions. The results of  
a survey carried out in (1), which showed that UHF-therapy con-  
stitutes 47% of the total number of electrotherapeutic proce-  
dures in hospitals and 47% in polyclinics, also attest to this.  
However, in spite of the broad application and the exten-  
sive clinical experience in utilizing UHF-therapy, the exten-  
sion of objective UHF-therapy dosimetry procedures has remained  
practically unresolved up to the present time. In particular,  
the fact, that none of the domestic UHF-therapeutic instruments

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(1 - USSR - C)

As a result of the work carried out at the All-Union Scientific Research Institute of Instrument Engineering an instrument was developed for measuring the power absorbed by a patient undergoing the therapy procedure. The schematic diagram of this device connected into the output channel of the high-frequency device is shown in Fig. 1. The measurement of the absorbed power which is shown in Fig. 1. The measurement of the power is accomplished by a quadrature voltmeter in the output channel of the three-winding method of measuring power by which power is measured directly, i.e.,  $\cos \phi$ . Since the accuracy of such measurements of the circuit, simply increase at such values of  $\cos \phi$  (2), then the connecting of it directly to the output of the instrument (at points  $m, n$ ) is not possible, since the  $\cos \phi$  of an equivalent load at these points is a number of (3). Thus, the wattmeter is connected in a number of points with the patient circuit, joining the node circuit 2 of the generator of the output channel of the instrument showed (4), values of  $\cos \phi$  of not less than 0.3-0.5 can be ensured with all types of procedures, which is sufficient for the practical investigation of the transmitted power. However, due to the fact that the type of procedure, then the determination of the power absorbed by the body tissues directly from the wattmeter reading can lead to a very great supplementary error, of as much as 25%. To reduce this supplementary error correction circuit 5 is specified, which makes it possible to eliminate from the wattmeter reading the magnitude of the power losses in the patient circuit.

1. Included in the patient circuit are the coils  $L_1$ , the tuned capacitance  $C_1$ , the feeder with the electrodes and the patient.

USSR

UDC 616.33+616.342]-002.44-085.849.112-  
073.97

CHISTYAKOVA, N. S., SKURIKHINA, L. A., MAMAYEVA, Z. K., and ARAPOVA, A. D.,  
Central Clinical Hospital, 4th Main Administration, Ministry of Health USSR,  
Moscow

"Dynamics of the Electrogastrogram During Comprehensive Therapy of Peptic  
Ulcer Including the Use of Microwaves"

Moscow, Voprosy Kurortologii, Fizioterapii i Lechebnoy Fizicheskoy Kul'tury,  
No 4, 1972, pp 341-344

Abstract: Electrogastrographic examination of 30 peptic ulcer patients showed increased electrical activity in most cases of duodenal ulcer in the acute and recurrent form, stages 1 and 2 in a state of exacerbation. Electrical activity was decreased in some patients suffering from stage 2 recurrent and chronic forms. Microwave therapy including medication normalized or improved gastric electrical activity. It also contributed to the relief of pain, disappearance or subsidence of dyspeptic phenomena, and cicatrization of the ulcer. No changes were noted in the stomach biopotential of patients treated with medication alone.

1/1

SKURIN, L.I.

RND / 18.11.66 / 5-11-73  
RND 73

36

where  $u_n$  and  $v_n$  are a projection of the velocity vectors of the corresponding components on the  $x$  and  $y$  axes;  $N$  is the number of components, while  $\rho_{n0}$  are unperturbed values of their densities, permitting the flow of each component to be considered irrotational and according to the introduction of a perturbation potential for each component. The remainder of the investigation is done using operational calculus methods.

Gudion, V. N., V. G. Ivanov, G. I.  
Mirshin, S. N., Palhin, and L. I.  
Skurin. Electronic and gas dynamic  
parameters of hypersonic wakes behind  
models moving in argon. ZhTF, no. 5,  
1972, 1049-1055.

The conductivity, velocity, and width of hypersonic wakes behind models moving in argon were studied within a velocity range of 3300-4900 m/sec, at pressures of 30, 40, 60, 80, and 100 torr and a temperature of about 290° K. The experiments were conducted on polyethylene 8 mm cylindrical models of small elongation with spherical noses and conic skirts. Copper-plated aluminum spheres 5.4 mm in diameter were used for control experiments. The models were shot into a pressure chamber provided with instrumentation for measurement of the wake conductivity and velocity. Wake velocity was measured electro-dynamically and by the Tompler method.

Measurement results are presented for tests of wake conductivity at a constant pressure and variable velocity or at a constant velocity and variable pressure. The latter test results show that as the distance from the body increases, a relationship develops between the



USSR

UDC: 538.4

SKURIN, L. I.

"Approximate Calculation of a Turbulent Boundary Layer on an Electrode"

Uch. zap. LGU (Scientific Notes of Leningrad State University), 1970, No 357, pp 18-21 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B24)

Translation: The paper considers a two-dimensional turbulent boundary layer of isotropically conductive gas on an electrode wall of a magnetohydrodynamic channel. The analysis is done with the aid of an integral method previously used by the author for calculating a turbulent boundary layer on a nonconductive surface (see magnitn. gidrodinamika, 1968, No 3, pp 99-106 -- RZh-Mekh, 1969, 6B25). It is shown that increasing the current density leads to a reduction of friction on the wall, and to an increase in heat transfer; reducing the wall temperature increases thermal fluxes, but the thickness of the boundary layer does not change significantly. The resultant data are compared with the characteristics of a boundary layer on a nonconductive wall. A. B. Batashin.

1/1

1/2 019  
TITLE--ANALYTICAL REPRESENTATION OF THE PULSATONAL ENERGY PROFILE IN A  
WAKE -U-  
AUTHOR--SKURIN, L.I.  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, MAY 1970, P. 916-918  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--INCOMPRESSIBLE FLUID, KINETIC ENERGY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3007/1143  
CIRC ACCESSION NO--AP0136563  
STEP NO--UR/0170/70/018/000/0916/0918  
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136563

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. DETERMINATION OF THE MEAN  
TURBULENT ENERGY DISTRIBUTION IN THE SIMILARITY REGION OF A PLANE WAKE  
IN INCOMPRESSIBLE FLUID, USING THE EQUATION OF PULSATIONAL ENERGY  
BALANCE AS A BASIS. CALCULATIONS SHOW GOOD AGREEMENT WITH EXPERIMENTAL  
RESULTS GIVEN BY KHINTSE (1963). EQUATIONS ARE OBTAINED FOR THE RATIO  
OF THE RATES OF VARIATION OF THE MEAN VELOCITY AND THE PULSATIONAL  
VELOCITY. FACILITY: LENINGRADSKII GOSUDARSTVENNYI UNIVERSITET,  
LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 533+621.5:533

GADION, V. N., IVANOV, V. G., MISHIN, G. I., PALKIN, S. N., SKURIN, L. I.,  
Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences of the  
USSR, Leningrad

"Investigation of the Electronic and Gas-Dynamic Parameters of a Hypersonic  
Wake Behind Models Moving in Argon"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, pp 1049-1055

Abstract: The paper presents experimental results on measurement of the conductivity, velocity and diameter of the wake behind models moving in argon at 3300-4900 m/s. The pressure in the test chamber was varied from 30 to 100 mm Hg. The models were cylinders with low aspect ratio with a spherical nose and a tapered skirt 8 mm in diameter. The test models were made from polyethylene, and control measurements were made on aluminum copper-plated spheres 5.4 mm in diameter. Taking the initial conditions of the experiment as a basis, a theoretical analysis is made of the temperature, velocity and diameter of the wake, and the electron concentration along the wake using various models of viscosity. The viscosity models are evaluated by comparing theoretical and experimental data on wakes with a length up to 500 times the diameter of the model.

1/1

USSR

KISELEV, A., Professor, Director of the Central Scientific Research Institute of Hematology and Blood Transfusion, Ministry of Health, USSR and SKURKOVICH, S., Professor

"Hyperimmune Antistaphylococcal Plasma"

Moscow, Meditsinskaya Gazeta, 27 Aug 71, p 3

Abstract: Because the use of antibiotics in Staphylococcal infections has produced strong drug-resistant staph strains, four years ago the Institute developed hyperimmune antistaphylococcal plasma and gamma-globulin preparations aimed at achieving passive immunity without allergic reaction in the patient. Antistaphylococcal plasma is prepared by means of plasmapheresis from the blood of immunized volunteer donors after antibodies appear in it. Part of the immune plasma is fractionated and hyperimmune antistaphylococcal gamma-globulin is isolated from it with a concentration of antitoxic antibodies 6-8 times higher than in the initial plasma. The therapeutic action of both preparations is exceptionally high. Antistaphylococcal plasma, which can be stored either frozen or dried, has been used in cases of newborn, puerperal, postoperative, and posttraumatic sepsis, Staphylococcal pneumonia, meningitis, osteomyelitis, localized acute septic staph infections, etc. A  
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- 30 -

USSR

KISELEV, A., Meditsinskaya Gazeta, 27 Aug 71, p 3

marked clinical effect is observed within 24 hours and mortality from staph sepsis has been substantially reduced. The use of antistaphylococcal plasma is being investigated in connection with heart transplant surgery, urology, and diseases of the eye, ear, nose, and throat.

2/2

USSR

UDC 616.94-022.7(STAPHYLOCOCCUS)-3.085.373.3

PAPKO, G. F., Candidate of Medical Sciences, and SKURKOVICH, S. V., Professor,  
Laboratory of the Immunology of Leucoses Central Order of Lenin Institute of  
Hematology and Blood Transfusion

"Use of Hyperimmune Antistaphylococcal Plasma"

Moscow, Khirurgiya, No 7, Jul 70, pp 88-91

Abstract: Hyperimmune antistaphylococcal plasma, which contains a high titer of antitoxic antistaphylococcus antibodies, was administered to some 200 adults and 100 children (including 75 premature infants) in various Moscow hospitals and clinics. The patients were suffering from a variety of Streptococcal diseases, including sepsis, pneumonia, osteomyelitis, and staphylococcal diseases, injected intravenously (4 to 10 ml/kg body weight). The dose and number of transfusions were determined by the patient's age, general condition, the severity of the disease, and the level of passive antistaphylococcal immunity. Treatment usually comprised from 2 to 10 transfusions, 3 to 4 days apart, combined with antibiotics. The results were good to excellent in the great majority of the cases, and most of the institutions conducting the trials of the plasma endorsed its further use. Topical application of the plasma for the treatment of suppurating postoperative wounds also proved to be very effective.

USSR

UDC 616.155.392-085.277.3-059:615.37

SKURKOVICH, S. V., BULYCHEVA, T. I., KOVALEVA, L. G., and ISAYEV, V. G., Laboratory of Immunology and Virology of Leukoses and Hematology Clinic, Central Institute of Hematology and Blood Transfusion, Ministry of Health USSR

"Active Immunization of Acute Leukemia Patients with Live Allogeneous Leukotic Cells Combined with Antileukosis Drug Therapy"

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 5, 1970, pp 32-35

Abstract: A group of nine patients with acute leukemia received intravenous and intramuscular injections of leukotic cells from other such patients, after which they were treated with various drugs (prednisolone, 6-mercaptopurine, methotrexate, vincristine). The response was almost immediate - lowering of body temperature, improvement of sleep and appetite, shrinkage of lymph nodes and parenchymatous organs, cessation of hemorrhages, etc. Five of the nine had remissions lasting an average of 9.1 months and a lengthening of the life span by 18 months. On the other hand, in a group of control patients (treated with drugs alone), the remissions lasted only five months on the average and the life span was extended by just 6-7 months.

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USSR

UDC 533.6.013.42

SKURLATOV, E. D., SOLOMENKO, V. R., Moscow

"Study of the Behavior of Cylindrical Shells Under the Influence of Moving, Pulsating Pressure Jumps"

Kiev, Problemy Prochnosti, No 6, 1972, pp 7-11.

Abstract: Transonic flow over the surface of a structure causes compression jumps in areas of sharp change of shape of the body (for example, where a conical section is replaced by a cylindrical section), moving downstream and at the same time oscillating at a certain amplitude. These jumps oscillate with a discrete frequency and cause a sharp increase in the amplitude of vibration of walls of shell. This work presents the results of solution of the nonlinear problem of forced oscillations of a smooth cylindrical panel, subjected to the influence of a pulsating compression jump, and certain experimental data from studies performed in a wind tunnel with cylindrical shells. The behavior of cylindrical shells of slight curvature is studied. The equations of motion of a panel in ordinary derivatives produced from the initial equations in partial derivatives by application of the Bubnov-Galerkin method, are integrated numerically by digital computer. The calculated data agree qualitatively with the experimental data produced in the wind tunnel tests.

1/1

USSR

UDC: 533.6.013.42  
SKURLATOV, E. D., Central Scientific Research Institute of Machine Building,  
Moscow

"Experimental Study of the Behavior of Cylindrical Shells Under Dynamic  
Loads"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 79-83

Abstract: Experiments are done on steel and aluminum cylindrical shells. The specimens were made from sheet material by spot welding with a single longitudinal seam. Resistance to deformation was determined, and transient processes were studied under the effect of moving pressure waves, and with static longitudinal compressive forces preapplied to the end faces of the shells. The limits of stability were determined over a wide range of variation in loading parameters. The effect of axial compressive forces on the critical velocities of the pressure wave front was studied. An analysis is made of the behavior of shells under the effect of the high-velocity gas flow following the shock wave front.

1/1

- 42 -

1/2 016  
TITLE--THERMODYNAMICS OF OXYGEN REDUCTION IN AN AQUEOUS SOLUTION -U-  
AUTHOR--SKURLATOV, YU.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 548  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMODYNAMICS, HYDROGEN BONDING, HYDROXYL RADICAL, REDOX  
REACTION, AQUEOUS SOLUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/0746  
CIRC ACCESSION NO--AP0136183  
STEP NO--UR/0076/70/044/002/0548/0548  
UNCLASSIFIED

2/2 016

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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136183

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AN EQUATION WAS DEDUCED FOR APPROX. CALC. OF STD. ENTHALPY OF DISSOLN. ( $\Delta H$  SUBDEGREES) OF NONPOLAR COMPS.:  $\Delta H$  SUBDEGREES EQUALS  $1.2 - 0.15V$  SUBM, WHERE  $V$  SUBM IS THE MOLAR VOL. AT THE B.P. AFTER INTRODUCING THE CORRECTION FOR H BOND THE VALUE OF  $\Delta H$  SUBDEGREES WAS MINUS 8.2 PLUS OR MINUS 1 FOR THE HO SUB2 RADICAL AND MINUS 5.5 PLUS OR MINUS 1 KCAL-MOLE FOR THE OH RADICAL. BY USING A SIMILAR EXPRESSION THE VALUES OF STD. ENTROPY OF DISSOLN. ( $\Delta S$  SUBDEGREES) WERE MINUS 22.2 FOR THE HO SUB2 RADICAL AND MINUS 19.3 FOR THE OH RADICAL. WITH THE USE OF THESE ESTD.  $\Delta H$  SUBDEGREES AND  $\Delta S$  SUBDEGREES, THE VALUES OF  $\Delta G$  SUBDEGREES,  $\Delta G$  SUBDEGREES, STD. FREE ENTHALPY, AND REDOX POTENTIAL WERE CALCD. FOR THE FOLLOWING REACTIONS: SHOWN ON MICROFICHE. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--THEORY OF FINE SURFACE STATES IN SILICON AND GERMANIUM -U-  
AUTHOR--PREPELITSA, B.V., CHEBAN, A.G., KARP, I.A., SKUTELNICHUK, I.M.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 528-32  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--SEMICONDUCTOR MATERIAL, SILICON, GERMANIUM, ELECTRON  
STRUCTURE, SURFACE PROPERTY, CRYSTAL IMPURITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/0642 STEP NO--UR/0368/70/012/003/0528/0532  
CIRC ACCESSION NO--AP0107239

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APPROXN. METHOD FOR EFFECTIVE MASS VARIATION IN SEMICONDUCTORS WAS STUDIED BY USING ENERGY CALCNS. OF THE 1ST 3 ELECTRON STATES FOR FINE DONOR IMPURITY CENTERS LOCALIZED CLOSE TO THE SEMICONDUCTOR SURFACE. BY USING DERIVED FORMULAS, THE ENERGY, E, AND VARIATION PARAMETERS A AND B WERE CALCD. FOR GE AND SI. BECAUSE OF THE APPROXNS. MADE, THE RESULTS APPLY NOT TO REAL CRYSTALS OF SI AND GE, BUT TO IDEALIZED SEMICONDUCTORS WITH AN ANISOTROPIC TENSOR EFFECTIVE MASS OF THE SI AND GE TYPE. SINCE THE PRECISE CALCN. OF THE REAL SURFACE STATE PRESENTS CONSIDERABLE DIFFICULTIES, IT IS CONCLUDED THAT THE APPROACH USED REPRESENTS A REASONABLE APPROXN.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--PHASE SENSITIVE DEVICE BASED ON MAGNETIC RESISTORS --U--  
AUTHOR--(02)--PELYAKOV, V.YE., SKUTELNIKOV, V.I.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, ELEKTRICHESTVO, NO 3, 1970, PP 80-81  
DATE PUBLISHED-----70  
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.  
TOPIC TAGS--PHASE DETECTOR, RESISTOR, MAGNETIC EFFECT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1208 STEP NO--UR/0105/70/000/003/0080/0081  
CIRC ACCESSION NO--AP0123172  
UNCLASSIFIED

2/2 019

CIRC ACCESSION NC--AP0123172

UNCLASSIFIED

PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PHASE SENSITIVE NETWORK BASED ON  
MAGNETIC RESISTORS HAVING NO BALLAST RESISTANCE AND THEREFORE OF LOW  
CONSUMPTION IS DESCRIBED. THE DEVICE IN QUESTION MAY BE USED IN  
AUTOMATIC UNITS AND IN PARTICULAR IN DEVISING A POWER FLOW DIRECTION  
RELAY.

UNCLASSIFIED



014  
UNCLASSIFIED  
TITLE—NITRATION OF DIHYDRORESORCINOL —U—  
AUTHOR—(03)—NEYLANDS, O., SKUJMA, J., LAIZANE, Z.  
COUNTRY OF INFO—USSR  
SOURCE—LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (2), 244-5  
DATE PUBLISHED—70  
SUBJECT AREAS—CHEMISTRY  
TOPIC TAGS—NITRATION, RESORCINOL, AMMONIUM SALT, ORGANIC NITRO COMPOUND,  
CYCLOHEXANE, KETONE  
CONTROL MARKING—NO RESTRICTIONS  
DOCUMENT CLASS—UNCLASSIFIED  
PROXY REEL/FRAE—1999/1878  
CIRC ACCESSION NO—AP0123666  
STEP NO—UR/0464/70/000/002/0244/0245  
UNCLASSIFIED

272 014  
CIRC ACCESSION NO—AP0123666  
ABSTRACT/EXTRACT--(U) GP-0-  
M. 114-15DEGREES (NH SUB4 SALT M. 168-9DEGREES (ETCH), WAS PREPD. IN  
67PERCENT YIELD BY ADDING, DURING 1 HR AT 0-5DEGREES, 8 ML CONCD. H2O  
SUB3 TO 4.5 G DIHYDRORESORCINOL IN 20 ML CONCD. H2O SUB2 SO SUB4 AND  
STIRRING THE MIXT. 15 MIN. WHEN THE ABOVE MIXT. WAS POURED OVER ICE  
AND HEATED TO 60DEGREES, 69PERCENT D SUB2 NCH SUB2 CO. (CH SUB2) SUB3 CO  
SUB2 H (II), M. 96-7DEGREES (C SUB2 H SUB4 CL SUB2) IN 69PERCENT WAS  
PREPD. CHLORINATION OF I IN C SUB2 H SUB4 CL SUB2 YIELDED ONLY II AND C  
SUB2 NCHCLCO (CH SUB2) SUB3 PRIME NEGATIVE CO SUB2 H.  
RIZH. POLITEKH. INST., RIGA, USSR.

UNCLASSIFIED

PROCESSING DATE--30OCT70

FACILITY:

UNCLASSIFIED

SKUZHAK, G.

SO: JPRS 54304  
22 OCT 71

UDC: 618.15-006-008.931-02:615.256.51  
THE EFFECT OF 17- $\beta$ -ESTRADIOL ON THE ACTIVITY OF SOME ENZYMES IN THE EPITHELIUM  
OF VAGINAL TUMORS

*Article by G. Skuzhak, Institute of Oncology, Warsaw; Moscow, Voenitk Akademii  
Meditsinskikh Nauk SSSR, Russiam, No 8, 1971, Pp 13-15*

In our preceding work it was established that transferable vaginal carcinoma in mice reacts less to estrogens and progestogens (Skuzhak, in press) as it is cultivated. It was also found that the sensitivity of vaginal carcinoma to sex hormones can be assessed semiquantitatively, on the basis of changes in percentage of tumor cells with increased activity of alkaline phosphatase, glucose-6-phosphate dehydrogenase, and lactate dehydrogenase.

The purpose of the present investigation was to find answers to the following questions: 1) Is there a correlation between estradiol dosage and number of cells showing increased activity of alkaline phosphatase and glucose-6-phosphate dehydrogenase in the epithelium of vaginal tumors? 2) Do vaginal tumors react to estradiol in vitro, and is it possible to demonstrate this reaction by histochemical methods?

As in our preceding work (Skuzhak, in press) transferable vaginal tumor cells of mice served as our material. The tumor was transferred to castrated mice after 15 days, when the tumor reached an appropriate size, experiments were performed. Five control mice received intramuscular injections of olive oil, which served as hormone solvent. The other mice (five per group) received single intramuscular injections of 17- $\beta$ -estradiol in the following doses: 1, 10, and 100 mg per 0.1 ml. The animals were decapitated 24 hours after the hormone injection, and tumor tissue was rapidly removed and frozen in liquid nitrogen. Then pieces of tumor tissue were transferred into a Pearce cryostat, a micron sections were prepared and transferred to a slide and carefully dried at 19°. Some of the cryostat sections were stained with hematoxylin-eosin.

In the second experiment, the vaginal tumors were resected in vivo under ether anesthesia 30 days after inoculation. Tumor tissue was cut with a blade into fins (1-2 mm) plaques and, after elution in saline with glucose, they were transferred into 10 ml flasks with ground edge, containing Parker solution without serum but with 17- $\beta$ -estradiol in a concentration of 1 mg per ml of nutrient solution. Control sections were incubated in pure Parker's

medicine/tumors

008

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--AROMATIC HYDROCARBONS. XXXVIII. HYDROCARBONS OF THE ANTHRACENE  
SERIES IN DIENE SYNTHESIS -U-  
AUTHOR--(04)-SKVARCHENKO, V.R.; SHILNIKOVA, A.G., ZAKHAROVA, G., LEVINA,  
R.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(1), 174-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANTHRACENE, AROMATIC HYDROCARBON, DIENE, CONDENSATION  
REACTION, QUINONE, MALEIC ANHYDRIDE, HYDROCARBON SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1995/1467

CIRC ACCESSION NO--AP0116904

STEP NO--UR/0366/70/006/001/0174/0177

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF  
2,3, DIMETHYLANTHRACENE (I) WITH MALEIC ANHYDRIDE (II) OR RHO  
BENZOQUINONE (III) GAVE ONLY 9,10, ADDN. PRODUCTS:  
2,3, DIMETHYL, 9,10, (DICARBOXYETHANO), 9,10, DIHYDROANTHRACENE ANHYDRIDE  
(IV) OR 2,3, DIMETHYL, 1 PRIME, 2 PRIME, DIHYDRO, 3 PRIME, 6  
PRIME, TRIPTYCENEQUINONE (V). SIMILARLY, WHEN  
2,3,6,7, TETRAMETHYLANTHRACENE (VI) OR  
2,3, DIMETHYLCYCLOHEX(6,7)ANTHRACENE (VII) WERE REACTED WITH II OR III  
THE CORRESPONDING 2,3,6,7, TETRAMETHYL DERIV. OF IV AND V, ANHYDRIDE OF  
2,3, DIMETHYL, 9,10, (DICARBOXYETHANO), 6,7, CYCLOHEXANO, 9,10, DIHYDROANTHRACE  
NE, OR 2,3, DIMETHYL, 2 PRIME, 3 PRIME, DIHYDROQUINONE(3 PRIME, 2  
PRIME, 9,10)CYCLOHEXANO(6,7), 9,10, DIHYDROANTHRACENE WERE OBTAINED. THE  
REACTION OF IV OR ITS 2,3,6,7, TETRAMETHYLDERIV. WITH H SUB2 C:CMCME:CH  
SUB2 GAVE  
2,3,6,7, TETRAMETHYLTRICYCLO(2.2.2.2)TETRADECA2,6(7), DIEN, 9,10, DIONE.  
THE REACTION OF I, VI OR VII WITH O, H SUB2 NC SUB6 H SUB4 CO SUB2 H, AMYL  
LITHIUM MIXT. (WHICH FORMS BENZYNE) GAVE 2,3, DIMETHYLTRIPTYCENE,  
2,3,6,7, TETRAMETHYLTRIPTYCENE, OR 2,3, DIMETHYLCYCLOHEXANO(6,7)TRIPTYCENE  
AS WELL AS THE CORRESPONDING  
8,9, SUBSTITUTED, 5,12, ETHANO, 5,12, DIHYDRONAPHTHACENES OR  
8,9, SUBSTITUTED, 5,12, DIMETHYLETHENO, 5,12, DIHYDRONAPHTHACENES.  
FACILITY: MOSK. GOS. UNIV. IN. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: **AP0053439** - Abstracting Service:  
- CHEMICAL ABST.Ref. Code:  
**UR 0366**

111153h Aromatic hydrocarbons. XXXIX. 5,12-Diphenyl-1,2:3,4-dicycloalkano-6,11-benzo-6,11-dihydrotetracenes. Skvatchenko, V. R.; Shil'nikova, A. G.; Levina, R. Ya. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR). *Zh. Org. Khim.* 1970, 6(1), 173-80 (Russ). The redn. of 1,2:3,4-dicyclohexano-6,11-benzo-1,4,8,11,13,14-hexahydrotetracene-5,12-dione or 1,2:3,4-dicyclopentano-6,11-benzo-1,4,6,11,13,14-hexahydrotetracene-5,12-dione with PhLi at -5 to 0° gave the corresponding 5,12-diphenyl-5,12-dihydroxy derivs. which were dehydrated in boiling EtOH contg. HCl to 5,12-diphenyl-1,2:3,4-dicyclohexano-6,11-benzo-1,4,6,11-tetrahydrotetracene (I) or 5,12-diphenyl-1,2:3,4-dicyclopentano-6,11-benzo-1,4,6,11-tetrahydrotetracene (II). The aromatization of I or II by heating with Pd-C catalyst gave 5,12-diphenyl-1,2:3,4:6,11-tribenzo-6,11-dihydrotetracene or 5,12-diphenyl-1,2:3,4-dicyclopentano-6,11-benzo-6,11-dihydrotetracene.

CPJR

REEL/FRAME  
19830464

Acc. Nr: **AP0047314**

Ref. Code: UR 0300

PRIMARY SOURCE: *Ukrayns'kiy Biokhimichnyi Zhurnal*, 1970,  
Vol 42, Nr 1, pp 24-27

ON POSSIBILITY OF EXISTENCE IN ANIMAL TISSUES  
OF DIFFERENT CONFORMATION FORMS OF t-RNA  
DIFFERING BY ABILITY TO ACCEPT AMINO ACIDS

G. Kh. Matsuka, T. P. Baby, E. B. Skvirskaya, M. I. Kovalenko, V. I. Semenikhin

Institute of Biochemistry, Academy of Sciences, Ukrainian SSR, Kiev

Summary

The transfer RNA of the liver of fastened rabbits loose partially the ability to accept such amino acids as tyrosine, leucine, methionine and glycine. A momentary heating of t-RNA in the presence of magnesium ions favours to a considerable extent the reduction of the lost ability of t-RNA to accept the mentioned amino acids. The analogous results are obtained when studying t-RNA of the rat liver in the experiments with menthionine. It is possible to suppose that tyrosine, methionine, leucine and glycine t-RNA and, probably, other, during the fasting of animals, are available in the liver in a changed conformation form, to which a low biological activity is peculiar.

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REEL/FRA  
19790832

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UNCLASSIFIED

FUNCTIONAL AND STRUCTURAL PECULIARITIES OF TRANSPORT RNA IN  
BIOSYNTHESIS OF PROTEIN WITH SOME PHYSIOLOGICAL STATES OF ANIMALS -U-  
AUTHOR-(05)-MATSUKA, H.KH., BABIY, T.P., SKVIRSKA, YE.R., KOVALENKO, M.Y.,  
ELSKA, A.V.  
COUNTRY OF INFO--USSR

SOURCE--UKRAYNS'KIY BIOKHIMICHNIY ZHURNAL, 1970, VOL 42, NR 2, PP 217-226  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RNA, PROTEIN SYNTHESIS, PHENYLALANINE, GLAND, HIBERNATION,  
LIVER, RABBIT, RAT, AMINO ACID, MANGANESE, CALCIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1988/1529

CIRC ACCESSION NO--AP0106283

STEP NO--UR/0300/70/042/002/0217/0226

UNCLASSIFIED



2/2 028

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106283  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TRANSPORT RNA MANIFEST FUNCTIONAL AND STRUCTURAL PECULIARITIES AT THE CORRESPONDING PHYSIOLOGICAL STATES OF AN ORGANISM WHEN CONSIDERABLE QUALITATIVE AND QUANTITATIVE CHANGES OCCUR IN PROTEIN BIOSYNTHESIS. THESE PECULIARITIES ARE MANIFESTED IN THE FOLLOWING. THE AMOUNT OF ISOACCEPTOR LEUCIN T-RNA REMAINS CHANGES IN THE MAMMARY GLAND. ONE FRACTION OF LEUCIN T-RNA REMAINS INSTEAD OF TWO WITH TRANSITION FROM THE LACTATE STATE INTO THE INVOLUTION. BESIDES, THE QUANTITATIVE RATIOS OF SUCH RNA AS GLUTAMINIC AND PHENYL ALANINE IS CHANGED IN THE LACTIC GLAND WITH THE BEGINNING OF THE SYNTHESIS OF MILK PROTEINS. GOPHERS, BEING AT THE STATE OF HIBERNATION, THE AMOUNT OF GLYZINE ISOACCEPTOR T-RNA OF LIVER DECREASES FROM THREE UP TO TWO IN COMPARISON WITH THE ANIMALS AT THE STATE OF VIGIL. IN RABBITS UNDER CONDITIONS OF STARVATION SUCH T-RNA AS PHENYL ALANINE, GLYCINE, METHIONINE, LYSINE, LEUCINE AND TYROSINE IS CONSIDERABLY LOWER THE ABILITY TO ACCEPTATE AMINO ACIDS. THE SAME IS SHOWN IN EXPERIMENTS WITH METHIONINE T-RNA OF RAT LIVER. THE RESULTS OBTAINED TESTIFYING IN FAVOUR OF THE FACT THAT DECREASE OF ACCEPTOR ACTIVITY OF T-RNA WITH STARVATION IS A RESULT OF POSSIBLE CONFORMATION CHANGES IN MOLECULE OF T-RNA. IT IS ESTABLISHED THAT THE LOST ACCEPTOR ABILITY OF T-RNA OF FASTENED RABBITS AND RATS IS ALMOST COMPLETELY RESTORED AFTER HEATING OF T-RNA IN THE PRESENCE OF MAGNESIUM IONS. BESIDES, TYROSINE T-RNA OF RABBIT LIVER RESTORES ITS ACCEPTOR PROPERTIES WITH HEATING OF T-RNA IN THE PRESENCE OF MANGANESE AND CALCIUM IONS.

UNCLASSIFIED

USSR

UDC: 621.385:530.145.6:62

SUMINOV, V. M., PROMYSLOV, Ye. V., SKVORCHEVSKIY, A. K., KUZIN, B. G.

"Effect Which Misalignment of the Mirrors in a Laser Cavity Has on the Accuracy of Geometric Parameters of Laser-Drilled Holes"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry --collection of works), vyp. 1, Moscow, 1971, pp 26-29 (from RZh-Radiotekh-nika, No 5, May 71, Abstract No 5D472)

Translation: The authors describe experimental studies carried out on specimens of Kh18N9T steel in which they determined the effect of cavity misalignment on the diameter and depth of laser-drilled holes and the change in weight of the metal removed during machining. It is shown that when the mirrors are misaligned, there are appreciable changes in the longitudinal and transverse shapes of finished holes. For all possible versions of mirror misalignment there is a change in the weight of the vaporized metal with an increase in the angle of misalignment. The amount of material removed during machining differs for all cases. Maximum hole parameters are observed with a certain displacement of the mirrors relative to the end surfaces of the active medium, rather than with perfect alignment. The most favorable case is that where the cavity mirrors are oriented in the same direction and shifted by the same angle. A. K.

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- 79 -

USSR

UDC:621.438.1

IL'INSKIY, V. V., SKVORCHEVSKIY, Ye. A.

"Some Peculiarities of Small Gas Turbines and Problems of Modeling as Air is Blown Through Them"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Construction and Airfleet Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 32, pp 16-19 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 11, 1973, Abstract No 11.34.67, from the resume)

Translation: The problem of the peculiarities of the operating process of small gas turbines is studied. The possibility is analyzed of modeling the processes occurring in them as air is blown through. An estimate is presented of the influence of various similarity criteria on the nature of the flow. 1 Figure; 4 Biblio. Refs.

1/1

- 110 -

1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--MAIN INDICATORS OF PERFORMANCE OF AIR CLEANER IN D-50 ENGINE -U-  
AUTHOR--(02)-KECHIN, V.A., SKVORNYUK, P.A.  
COUNTRY OF INFO--USSR  
SOURCE--TR. SARATOVSK. IN-TA MEKHANIZ. S. KH. (TRANSACTIONS OF THE SARATOV  
REFERENCE--REFERATIVNYY ZHURNAL-DVIGATELI VNUTRENNEGO SGORANIYA, NO 4,  
DATE PUBLISHED-----70  
SUBJECT AREAS--PROPULSION AND FUELS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--AIR FILTER, INTERNAL COMBUSTION ENGINE, CLEANING TECHNIQUE,  
FILTRATION, AIR/UIDSO ENGINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----F070/605031/F05 STEP NO--UR/0000/TO/000/042/0091/0096  
CIRC ACCESSION NO--A0141987  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--1101010

2/2 023

CIRC ACCESSION NO--00141987

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HANDLING CAPACITY OF A CLEAR AIR CLEANER IN THE D-50 ENGINE FOR NOMINAL AIR CONSUMPTION (225 M<sup>3</sup> PER MIN -HR) IS 2.95PERCENT FOR A RESISTANCE OF 325 MM H SUB2 O. CONTAMINATION OF THE AIR CLEANER REDUCES ITS HANDLING ABILITY. WHEN 2400 G OF DUST ENTERS AN AIR CLEANER, THIS ABILITY IS REDUCED BY FIVE TIMES. THE DUST TRAPPING CAPACITY OF AN AIR CLEANER IS RESTRICTED BY THE MAXIMUM ALLOWABLE RESISTANCE FOR A GIVEN ENGINE AND IS 2100 G OF DUST. A RISE IN RESISTANCE DEPENDS MAINLY ON THE INTENSITY OF RESISTANCE BUILD UP IN THE SECOND CARTRIDGE OF THE PACKING DUE TO ITS POOR FLUSHING WITH OIL. OPERATING INDICATORS OF THE AIR CLEANER IN THE D-50 ENGINE DO NOT MEET PRESENT DAY REQUIREMENTS AND ARE IN NEED OF MARKED IMPROVEMENT.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--EQUALIZING VELOCITIES OF AIR FLOW IN PACKING OF AIR CLEANER IN D-50  
ENGINE -U-  
AUTHOR--(02)-MECHIN, V.A., SKVORNYUK, P.A. S

COUNTRY OF INFO--USSR

SOURCE--TR. SARATOVSK. IN-TA MEKHANIZ. S. KH. (TRANSACTIONS OF THE SARATOV  
REFERENCE--REFERATIVNYY ZHURNAL-DVIGATELI VNUTRENNEGO SGOBANIYA, NO 4,  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--INTERNAL COMBUSTION ENGINE, AIR FILTER, FILTRATION, AIR/10050  
ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605031/F03 STEP NO--UR/0000/70/000/042/0097/0101

CIRL ACCESSION NO--AK0141985

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AR0141985

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AIR BY PASS FROM THE HEAD OF AN AIR CLEANER LEADS TO NONUNIFORM DISTRIBUTION OF FLOW VELOCITIES IN PACKING. NONUNIFORMITY OF VELOCITY FIELDS DEPENDS ON DESIGN PARAMETERS OF THE AIR CLEANER: HEAD RESISTANCE, PACKING RESISTANCE, AND CROSS SECTIONAL AREA OF HEAD CHANNEL. USING THE EQUALIZING WASHER, MORE UNIFORM DISTRIBUTION OF VELOCITIES IN PACKING CAN BE REALIZED. USING THE EQUALIZING WASHER REDUCES THE INITIAL HANDLING CAPACITY OF THE AIR CLEANER FOR AIR CONSUMPTION OF 180 M<sup>3</sup> PER HOUR BY 10 PERCENT AND INCREASES RESISTANCE BY 20-25 MM H<sub>2</sub>O. AN AIR CLEANER WITH EQUALIZING WASHER WHEN OPERATED UP TO MAXIMUM ALLOWABLE RESISTANCE HAS A MEAN HANDLING CAPACITY THAT IS 47 PERCENT LOWER THAN SERIES PRODUCED AIR CLEANERS. USE OF THE EQUALIZING WASHER DOES NOT REDUCE THE DUST TRAPPING CAPACITY OF THE AIR CLEANER.

UNCLASSIFIED

USSR

UDC 621.333.001.5

SKVORTSOV, A. A., Candidate of Technical Sciences, KABENIN, N. G., Candidate of Technical Sciences, KOLESINA, A. M., Engineer, ARUTS, K. A., Candidate of Technical Sciences, CHERNYAVSKIY, Z. M., Engineer

"Failure Rate of the Collectors of Traction Motors with a Plastic Case in Operation"

Moscow, Elektrotehnika, No 8, 1971, pp 21-22

Abstract: A study was made of the nature of operating failures of electric traction motors with a plastic case and causes for other occurrence. A sample of 16 collectors from motors which had been turned in for plant repair was used for the study. The largest number of failures occur at the overlap of the collector plates on the winding side. Problems with the armature rings were also very common. The nature of the damage was studied on collectors from 81,000 to 750,000 km of use. No correlation was discovered between the amount of use and the type of failure.

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Acc. Nr:

ATO102940

Abstracting Service:

CHEMICAL ABST. 6-70

Ref. Code:

4R0148

113225g Determination of the temperature field of the working wall of a crystallizer. Zhuravlev, V. A.; Kitaev, E. M.; Skvortsov, A. A. (Gor'k. Politekh. Inst., Gorki, USSR). *Izv. Vses. Ucheb. Zaved., Chern. Met.* 1976, 13(1), 163-6 (Russ). Math. (A) and elec. analog (B) methods were developed for calcg. and measuring temp. profiles of internally water-cooled crystallizer walls. Isothermal lines (90-120°) detd. by A and B showed good agreement for a crystallizer model (with a shallow water channel over 70% of its surface) operating at a heat flow ( $q$ ) = 680,000 kcal/m<sup>2</sup> hr, heat-transfer coeff. ( $\alpha$ ) = 25,000 kcal/m<sup>2</sup> hr degree, thermal cond. ( $\lambda$ ) = 320 kcal/m hr degree. The math. equation can be used to calc.  $q$  values from known crystallizer wall temps.

DPJR J MC

REEL/FRAME  
19861006

USSR

UDC [621.377.622.25-181.48:621.382.323-416].003.13

SKVORTSOV, A. M., ZARETSKIY, I. L., and NORKIN, L. M.

"Some Economic Problems of Planning, Designing, and Manufacturing Large Integrated Circuits from MOS-Transistors for Storage Devices"

Elektron. tekhnika Nauch.-tekhn. sb. Mikroelektronika (Electronic Engineering. Scientific and Technical Collection. Microelectronics), 1970, vyp. 5 (26), pp 183-185 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B346)

Translation: A comparative estimate of the cost of various types of semiconducting memories is presented. The cost of the circuit as a whole and the specific cost calculated per binary unit are investigated. The results of this estimate are presented for a memory of different capacity made of MOS-transistors and also for devices with a capacity of 1,000 bits executed in the form of large integrated circuits based on single crystals and mosaic integrated circuits using a montage by the inverted crystal method. It is demonstrated that on the modern level of development of technology, the specific cost of mosaic integrated circuits is 35 times less than that of large integrated circuits of the same capacity. There are illustrations and a 5-entry bibliography.

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1/5 027 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SKETCHES TOWARD A PORTRAIT OF THE NATION -U-

AUTHOR--SKVORTSOV, B.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KRASNAYA ZVEZDA, 13 JAN 70, P 4

DATE PUBLISHED--13JAN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--DEMOGRAPHY, NATIONAL ECONOMIC PLANNING, COMPUTER CENTER, DATA PROCESSING SYSTEM, DATA PROCESSING PERSONNEL, COMPUTER PROGRAM, COMPUTER CODING/(U)MINSK DIGITAL COMPUTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1996/1218

STEP NO--UR/9008/70/000/000/0004/0004

CIRC ACCESSION NO--AN0118285

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0118285

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A FEW DAYS SILVERY CONTAINERS CARRYING DETAILED DATA ON EVERY HUMAN BEING LIVING IN THE COUNTRY WILL BEGIN ARRIVING AT THE USSR CENTRAL STATISTICAL ADMINISTRATION FROM ALL CORNERS OF THE SOVIET UNION. THE FORTHCOMING ALL UNION CENSUS OF THE POPULATION WILL PROVIDE MORE DETAILED INFORMATION THAN THE 1959 CENSUS. THE NUMBER OF INDEXES CHARACTERIZING EACH PERSON HAS INCREASED ONE AND A HALF TIMES. THIS MEANS THAT OUR PLANNING ORGANIZATIONS WILL OBTAIN MUCH MORE INFORMATION, ENABLING THEM TO DEAL WITH NATIONAL ECONOMIC PROBLEMS IN A MORE ACCURATE MANNER, AND TO BE MORE AWARE OF THE POPULATION'S NEEDS. IT WOULD SEEM THAT THIS INVOLVES NO SPECIAL DIFFICULTY. INCREASE THE NUMBER OF QUESTIONS ON THE CENSUS FORM AND THAT IS ALL. HOWEVER, THIS IS FAR FROM THE CASE. MUCH DEPENDS ON THE QUALITY OF THE EQUIPMENT WHICH WILL HELP STATISTICIANS PROCESS CENSUS MATERIAL. THE PUNCHCARD EQUIPMENT WHICH PREPARED THE PUNCHCARDS FOR THE 1959 CENSUS DID NOT PERMIT INCREASING THE NUMBER OF QUESTIONS. A. N. LASHIN, THE DIRECTOR OF THE COMPUTER CENTER, EXPLAINED, "THE NEW METHOD OF PROCESSING CENSUS MATERIAL, FIRST DEVELOPED BY SOVIET SCIENTISTS, WILL ENABLE THE ELIMINATION OF PUNCHCARDS. THIS WILL MAKE IT POSSIBLE TO HAVE DETAILED QUESTIONS ON THE CENSUS FORM, AND TO CONSIDERABLE REDUCE THE TIME REQUIRED TO TRAIN PERSONNEL TO CODE AND PROGRAM THE ANSWERS. THUS IN 1959 THEY TOOK A SIX MONTH COURSE, WHILE TRAINING CODERS AND PROGRAMMERS FOR THE CURRENT CENSUS WILL TAKE ONE OR TWO DAYS. JUST WHAT IS THE DIFFERENCE BETWEEN THE OLD AND NEW METHODS?

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0118285

ABSTRACT/EXTRACT--BEFORE, THE ANSWERS WERE TRANSLATED INTO CONDITIONAL NUMERICAL VALUES BY A KEYPUNCH OPERATOR. THE CENSUS FORMS WERE PUNCHED ON PUNCHCARDS, CHECKED ON A PUNCHCARD VERIFIER, AND THEN PROCESSED CENTRALLY AT THE USSR CENTRAL STATISTICAL ADMINISTRATION'S CENTRAL STATION FOR MECHANIZED ACCOUNTING. THIS COMPLEX LABORIOUS PROCESS HAS NOW BEEN FUNDAMENTALLY CHANGED. CODERS FILL OUT THE SO CALLED "PROCESSED FORM". THIS IS A STIFF PAPER FORM WHICH WAS MADE BY SPECIAL ORDER OF THE CENTRAL STATISTICAL ADMINISTRATION. IT CANNOT HAVE ANY SPOTS, TEARS AND BENDS, OR BE INTERSPERSED WITH FOREIGN MATERIALS. A COMPLEX ORANGE COLORED TABLE IS PRINTED ON THEM. HOWEVER, IT IS ONLY SIMPLICATED AT FIRST GLANCE. THIS LONG FORM CAN BE DIVIDED INTO EIGHT IDENTICAL SECTIONS, EACH ONE CONTAINS INFORMATION FROM ONE CENSUS FORM. THERE ARE SMALL RECTANGLES PRINTED ABOVE THE DIGITS IN A CODE CORRESPONDING TO ONE OR THE OTHER ANSWERS. THE CODER MARKS THE CORRECT RECTANGLE WITH A SIMPLE BLACK PENCIL. ERRORS DUE TO POORLY QUALIFIED CODERS ARE EXCLUDED IN THIS CASE. THERE REMAINS THE POSSIBILITY OF ERRORS DUE TO INATTENTIVENESS, BUT THESE ARE QUICKLY CORRECTED BY AN "INTELLIGENT" MACHINE. LET US TAKE A GLANCE AT HOW THIS WOULD ACTUALLY TAKE PLACE. IT IS A SPACIOUS WELL LIGHTED HALL. THE "MINSK 32," ONE OF THE DOZENS OF NEW ELECTRONIC COMPUTERS, IS IN IT. IN ADDITION THREE "MINSK 22" ELECTRONIC COMPUTERS WILL PROCESS CENSUS MATERIAL. THE FINAL CHECKING OPERATIONS ARE BEING DONE. B. A. KOSTIN, THE HEAD OF THE ELECTRONIC COMPUTER DIVISION, OPENS ONE OF THE SILVER CONTAINERS AND PICKS UP ONE OF THE EIGHT CASSETTS IN IT.

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4/5 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0118285

ABSTRACT/EXTRACT--ITS EXTERIOR APPEARANCE REMAINS ONE OF THE "SPIDOLA" TRANSISTOR RADIO. IN IT ARE PROCESSED FORMS COMING FROM SOME REGION IN THE SOVIET UNION. HAVING PUT THE FORMS IN THE COMPUTERS RECEIVING MAGAZINE, BORIS ALEKSEYEVICH PRESSES A BUTTON. THE ALERT ELECTRONIC EYES READ 25 FORMS A MINUTE. THE RAYS INDIFFERENTLY PASS BY THE ORANGE COLORED TEXT, BUT ACCURATELY LOCK ON THE PENCIL MARKINGS, WHICH ARE TRANSFORMED INTO ELECTRICAL SIGNALS AND TRANSMITTED TO THE MEMORY UNIT. HERE THE INFORMATION IS CHECKED AUTOMATICALLY. ASSUME THAT DUE TO INATTENTIVENESS, THE CODER MARKED THE WRONG RECTANGLE. AS A RESULT, THE PERSON, WHO, ACCORDING TO SECTION SEVEN HAS A SECONDARY TECHNICAL EDUCATION, IS ONLY FIVE YEARS OLD. THE MACHINE WILL NOT ALLOW SUCH A DISCREPANCY AND HAVING LOGICALLY ANALYZED THE PROBLEM, CORRECTS THE ERROR ITSELF. IF LOGICAL ANALYSIS CANNOT BE ESTABLISHED THE TRUTH, THEN THERE IS A SIGNAL ON AN ELECTRIC TYPEWRITER THAT THERE IS AN ERROR ON ONE OF THE PROCESSED FORMS. ALL THE DATA THAT ARE PROCESSED BY THE MACHINE ARE LATER PUT ON A MAGNETIC TAPE, AS THIS IS MORE CONVENIENT. STORAGE REQUIRES CONSIDERABLY LESS ROOM. IN ADDITION IT CAN BE USED MANY TIMES, WHILE PAPER WEARS OUT RAPIDLY AND BECOMES WORTHLESS. THIS, BRIEFLY, IS THE PATH OF THE DATA ON THE CENSUS FORMS. IN THE COMPUTER CENTER THE FINAL ADJUSTMENT OPERATIONS ARE NOW TAKING PLACE. THE PREPAREDNESS OF ALL SERVICES WHICH ARE TO TAKE PART IN PROCESSING THE HUGE AMOUNT OF INFORMATION IS BEING CHECKED. THE REQUIREMENTS OF ECONOMISTS, PROGRAMMERS, AND ELECTRONICS WORKERS ARE BEING COORDINATED.

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0118285

ABSTRACT/EXTRACT--DISPATCHERS ARE MAKING SCHEDULES OF THE SEQUENCE OF SUPPLYING THE PROCESSED FORMS TO THE MACHINES. ALL THIS WILL MAKE IT POSSIBLE TO OBTAIN BY 25 APRIL OF THIS YEAR PRELIMINARY DATA ON THE RESULTS OF THE ALL UNION CENSUS. THIS DATA WILL GIVE THE POPULATION OF THE USSR, REPUBLICS, KRAYS, OBLASTS AND THEIR CENTERS, AND ALSO CITIES WITH A POPULATION EXCEEDING 100,000. IT WILL ALSO GIVE THE URBAN RURAL DISTRIBUTION OF THE POPULATION. FURTHER PROCESSING WILL CREATE A VIVID STATISTICAL PORTRAIT OF THE COUNTRY'S POPULATION IN THE YEAR OF LENIN'S JUBILEE.

UNCLASSIFIED

USSR

UDC: 621.373.826

PODGAYETSKIY, V. M., SKVORTSOV, B. V., TOKAREVA, A. N., BARABANOVA, V. N.

"A Gas-Discharge Flash Tube for Laser Pumping"

USSR Author's Certificate No 313241, filed 20 Jan 70, published 24 Apr 72  
(from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D259P)

Translation: This Author's Certificate introduces a gas-discharge flash tube for laser pumping. The device contains electrode units and an optically transparent envelope filled with the working gas. To increase the effectiveness of pumping a neodymium glass active body, a mixture containing at least two inert gases under a pressure of from 200 to 600 mm Hg is used as the working gas. The following mixtures can be used: a mixture of xenon and krypton in a ratio of  $\frac{1}{2}:\frac{1}{2}$  (by volume) under a pressure of 350-450 mm Hg with a discharge gap 11-12 mm in diameter; a mixture of xenon and neon in a ratio of  $\frac{3}{5}:\frac{2}{5}$  (by volume) under a pressure of 350-450 mm Hg with a discharge gap 11-12 mm in diameter; a mixture of xenon, krypton and neon in a ratio of  $\frac{1}{3}:\frac{1}{3}:\frac{1}{3}$  (by volume) under a pressure of 550-650 mm Hg for a discharge gap diameter of 11-12 mm, or a mixture of xenon and helium in a ratio of  $\frac{9}{10}:\frac{1}{10}$  (by volume) under a pressure of 350-450 mm Hg with a discharge gap diameter of 11-12 mm.

1/1

- 81 -



USSR

UDC: 621.373:530.145.6

VEL'MUSHKIN, L. A., SKVORTSOV, B. V., ROLDUGIN, V. I.

"A Pulse Gas-Discharge Pumping Tube for Optical Masers"

USSR Author's Certificate No 275259, filed 12 Oct 68, published 26 Oct 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D241 P)

Translation: A pulse gas-discharge laser pumping tube is proposed which contains a discharge flask made in the form of a T-shaped tube, a metal busbar which is electrically connected to one of the two electrode assemblies and located on the surface of the flask in such a way that the longitudinal axis of the cylindrical branch of the flask is perpendicular to the above-mentioned busbar. In order to improve the efficiency of ring emission in the ultraviolet spectral region, eliminate the additional heating of the active medium of the laser by infrared radiation from the discharge channel, and also to increase the maximum energy of a flash, the cylindrical branch of the flask accommodates a cylindrical chamber of smaller diameter coaxial with the branch, closed on the side of the axis which joins the electrodes, and used for holding the active medium of the laser. To facilitate breakdown of the discharge gap and to reduce the

1/2

- 112 -

VEL'MUSHKIN, L. A. et al., USSR Author's Certificate No 275259

a radial shock wave on the end of the cylindrical chamber, the closed end of this chamber has a conical construction which comes out on a level no higher than the axis of symmetry of the electrode assemblies of the tube.

2/2

USSR

UDC 621.373.826

SKVORTSOV, B. V., FIRSOV, V. M., MIUSKIN, V. YE., KURITSYN, I. A.

"Gas Discharge Pulse Tube for Pumping Lasers"

USSR Author's Certificate No 292568, filed 1 Nov 67, published 30 Nov 71 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5D286P)

Translation: A gas discharge pulse tube for pumping lasers has been patented the bulb of which is executed from quartz glass with alloying substances injected in it. In order to vary the structural characteristics of the tube radiation in such a way that it will correspond to the absorption (excitation) spectrum of the active substance and increase the energy supplied to the active substance without increasing its operating temperature, the sesquioxides of elements of the lanthanide group are used as the alloying substances.

1/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--TESTING RIG 3/B,58,300 ON WELL NO 2,SG, BIIKZHAL -U-  
AUTHOR--(02)-SKVORTSOV, D.S., MIROSHKHIN, D.S.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, BURENIYE, NO 4, 1970, PP 36-37  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--WELL DRILLING MACHINERY, EARTH DRILLING MACHINERY, PETROLEUM  
PROSPECTING/(U)3V858300 DRILLING RIG  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1901 STEP NO--UR/0437/70/000/004/0036/0037  
CIRC ACCESSION NO--AP0137098  
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137098

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DRILL RIG FOR 7 KM WELL TESTED. THE SUCCESSFUL TESTING OF DRILLING RIG 3V8,58,300 IS REPORTED. THE RIG WAS SET UP ON WELL NO 2 SG AT BIIKZHAL (KAZAKH SSR) WHICH HAS A PLANNED DEPTH OF 7,000 METERS. THE RIG HAS A LOAD LIFTING CAPACITY RATED AT 300 TONS.

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SKVORTSOV, G. Ye.

"New Devices for Scientific Research Created By the Leningrad Optical-Mechanical Union"

Optiko-Mekhanicheskaya Promyshlennost', No. 4, 1970, pp 28-36.

Abstract: Several new optical devices are described, including: the MIM-9 horizontal metallographic research microscope; the VMD high temperature installation for thermostatic and thermodynamic studies of metals; the MIK-3 stereoscopic microscope for observation in the infrared area of the spectrum; the MPE-1 universal microscope with coordinate transcription unit for study of traces of elementary particles in thick emulsions; the MTSP-1 cytophotometer for determination of the optical density of structural components of the cell; the ML-2V luminescent microscope with photometric attachment; the MPNE-1 microscope photographic attachment with automatic exposure control; the PMT-5 microhardness meter with automatic loading; the PSS-2 dual linnik microscope with enlarged field of view; the RIM-1 raster microscope for investigation of 8-11th class surface roughness; the GOS-1001 neodymium glass laser; the OGM-40 multiple pulse laser with four radiating frequencies. The principal characteristics of each of these devices are given.

1/1

USSR

VYSHENKOV, YU. I., ZIMIN, YU. S., SKVORTSOV, E. K., and SKVORTSOV, N. G.,  
Institute of Theoretical and Applied Mechanics of the Siberian Department  
of the Academy of Sciences USSR

"Graphic Information Reader"

USSR Authors' Certificate No 356666, Cl. 06 k 11/00, filed 2 Jun 69, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, p 145)

Abstract: The device contains a plotting board, a hairline, toothed disks, an electric motor, clutches, contactless pickups, holders, angle of rotation-to-digit converters, integrators, an output unit and a monitor unit. To increase the operating accuracy of the device, the hairline with three hairs is connected through the holders to the toothed disks, which are connected through microelectric motors to the contactless pickups, which are connected to the inputs of the angle of rotation-to-digit converters, whose outputs are connected through the integrators to one of the inputs of the output and monitor units, the other inputs of which are connected respectively to the control unit, the integrators and the angle of rotation-to-digit converters.

1/1

USSR

UDC 615.31:547.722.6].012.1.015.11

SKVORTSOV, I. M., BUNTYAKOVA, N. A., STOLYARCHUK, A. A., and IVANOVA, N. I.,  
Saratov University imeni N. G. Chernyshevskiy and Vinnitsa Medical Institute  
imeni N. I. Pirogov

"Synthesis of 1-(furyl-2')- and 1-(5'-methylyfuryl-2')-2-dimethylaminoethanes  
and Some Pharmacological Properties of the Hydrochlorides and Quaternary Salts  
Derived From Them"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 8, 1972, pp 14-17

Abstract: A continuation of an earlier work describing the synthesis of  
amines like 1-(furyl-2')-3-dimethylaminopropane is presented. The relationship  
between the structure of the quaternary salts and hydrochlorides, derivatives  
of tertiary furan amines, and their pharmacological properties are discussed.  
In experiments on mice, all eight compounds studied briefly dilated the pupils,  
lowered blood pressure, and slowed the coronary blood flow. Thus, the com-  
pounds possess M-cholinomimetic activity manifested selectively against the  
peripheral or central cholinoreactive structures.

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USSR

UDC 621.923.04

ORLOV, P. N., UKRAINSKIY, YU. M., GALKIN, B. D. and SKVORTISOV, K. F.

"The Character of the Surface Layer of Gallium Arsenide After Abrasive Grinding"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Mashinstroyeniye, No 4,  
1973, pp 158-161

Abstract: The influence of the process dynamics of the grinding used in preparing layers of gallium arsenide on the depth of the disturbed layer is considered. Using electron diffraction it was concluded that in order to increase productivity it is necessary to use high speeds and acceleration of the grinder on the foundation. On the other hand, in order to obtain a minimal disturbed layer for final polishing low speeds and minimal acceleration are required. These effects are due to the influence of plastic deformation on the process.

1/1

- 48 -

USSR

VYSHENKOV, YU. I., ZIMIN, YU. S., SKVORTSOV, E. K., and SKVORTSOV, N. G.,  
Institute of Theoretical and Applied Mechanics of the Siberian Department  
of the Academy of Sciences USSR

"Graphic Information Reader"

USSR Authors' Certificate No 356666, Cl. 06 k 11/00, filed 2 Jun 69, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, p 145)

Abstract: The device contains a plotting board, a hairline, toothed disks, an electric motor, clutches, contactless pickups, holders, angle of rotation-to-digit converters, integrators, an output unit and a monitor unit. To increase the operating accuracy of the device, the hairline with three hairs is connected through the holders to the toothed disks, which are connected through microelectric motors to the contactless pickups, which are connected to the inputs of the angle of rotation-to-digit converters, whose outputs are connected through the integrators to one of the inputs of the output and monitor units, the other inputs of which are connected respectively to the control unit, the integrators and the angle of rotation-to-digit converters.

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USSR

UDC 547.341:541.454 + 541.67

SKVORTSOV, N. K., TERESHCHENKO, G. F., IONIN, B. I., and PETROV, A. A., Leningrad  
Technological Institute Imeni Lensovet

"Investigation of the Protonation of Tertiary Phosphine Oxides by the Nuclear  
Magnetic Resonance Method"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 981-987

Abstract: Protonation of phosphine oxides and related compounds was studied by the NMR method using the chemical shifts of  $^1\text{H}$  and  $^{31}\text{P}$ . It was shown that protonshift data can be described by the amide function of acidity  $H_A$ . To describe results obtained from the chemical shifts of phosphorus, a new acidity function for phosphoryl compounds  $H_{PO}$  was developed. It shows a slow growth with increased concentration of sulfuric acid than the known functions  $H_O$  and  $H_A$ .

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USSR

UDC 621.039.524.46.034.44

SKVORTSOV, S. A.

"Prospects for Water-cooled Water-moderated Power Reactors"

Moscow, Atomnaya Energiya, Vol 28, No 4, Apr 70, pp 294-297

Abstract: The first water-cooled water-moderated power reactors were designed with conservative parameters. The first reactor of the Novovoronezh Atomic Power Station reached a power of 210 megawatts. Now a second-stage reactor has been launched at the Novovoronezh Atomic Power Station with a rated power of 365 megawatts, and construction is under way on a series of reactors with a power of 440 megawatts, with the same core size as the first-stage reactor. In the design stage is an atomic power station with two reactors, each of which provides a power of 1 Gev.

An important contribution to reducing the cost of atomic power stations is being made by the use of larger auxiliary equipment (cir-

1/4

USSR

SKVORTSOV, S. A., Atomnaya Energiya, Vol 28, No 4, Apr 70, pp 294-297

culating pumps, steam generators etc.), which reduces the number of reactor loops and results in a more compact arrangement of this equipment. According to design data the proportionate cost of an atomic power station with two 500-1000 megawatt water-cooled water-moderated reactors is 130-150 rubles/kw (in old wholesale prices). Designs developed for atomic power stations with a power of 2 X 440 and 2 X 1000 megawatts use uranium with an enrichment of 3.3 and 4.4 percent respectively; the fuel component of the net cost of electric power here equals 0.3-0.2 kopecks/kwhr. The fuel component values cited are based on the assumption that the fuel used in the reactor is discharged. However, estimates show that reprocessing of the fuel with its subsequent reuse as a first approximation does not result in any significant reduction in the value of the fuel component, but at any rate does not increase it either.

It can be expected that industrial use of fast reactors will

2/4

USSR

SKVORTSOV, S. A., Atomnaya Energiya, Vol 28, No 4, Apr 70, pp 294-297

begin after about 1980 and that water-cooled water-moderated power reactors will become widespread in the next 20 years. In view of the impossibility of a significant expansion of the fuel base for nuclear power engineering, in using water-cooled and moderated power reactors standby reactor variants must be developed which possess better fuel conversion indices than the water-cooled and moderated reactors. These standby variants do not have to match fast breeders in these indices, but their operating characteristics should be simpler and clearer. Such variants should include heavy-water and graphite-gas converters. There is also the question of the use of vapor-cooled fast breeders, which possess a lower conversion ratio than sodium-cooled fast reactors but do not require the use of sodium, the handling of which introduces certain structural and operating difficulties. Finally, there is the question of using a uranium-thorium cycle for energy purposes. The conversion ratio in this cycle when used in a water-cooled water-moderated reactor is close to one, as a result of which the use of the cycle would permit a significant expansion of the fuel resources

3/4

USSR

SKVORTSOV, S. A., Atomnaya Energiya, Vol 28, No 4, Apr 70, pp 294-297

for nuclear power engineering. Nor does the operation of uranium-thorium reactors with water as the coolant require new operating techniques or the use of substances whose handling causes difficulties. Therefore, it is possible that the use of uranium-thorium reactors may prove advisable during the time necessary to make fast reactors operational and to obtain economical indices justifying their use.

4/4

- 53 -

USSR

Radar

UDC 621.396.963

BARANOV, I. M., DYMOVICH, N. D., SKVORTSOV, S. M., SOKOLOV, P. M., MOROZ, V. G.,  
POGORELOV, B. P.

"Radar Display for Determining the Parameters of Atmospheric Inhomogeneities"

USSR Author's Certificate No 253178, Filed 11 Dec 67, Published 24 Feb 70  
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9G51P)

Translation: A radar display containing a video amplifier and a plan position indicator has been patented for determining the parameters of atmospheric inhomogeneities. In order to represent the radar image of atmospheric inhomogeneities in the form of a series of concentric black and white rings, a coding tube is included between the video amplifier and the plan position indicator via a pulse amplifier. This coding tube converts the video signals from the atmospheric inhomogeneities into a train of pulses equal with respect to magnitude and different with respect to width and duty factor depending on the distribution of the instantaneous values of the video signal voltage. The joint effect of radial-circular scanning of the plan position indicator and rectangular pulse voltage create concentric black and white circles on the screen. The width of each circle corresponds to a defined interval of atmospheric inhomogeneity intensity. This facilitates determination of the inner structure of the inhomogeneity at the given point in time, and it permits

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USSR

BARANOV, I. M., et al., USSR Author's Certificate No 253178, Filed 11 Dec 67,  
Published 24 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9G51P)

information about the intensity of precipitation with respect to area to be  
obtained and zones safe for aircraft flights to be determined. There are  
two illustrations.

2/2

- 145 -

SKVORTSOV, S. S.

# Radiation Medicine

COLBEN

SO:JPRS 53448

24 JUNE 71

UDC 629.782.539.16.05

DOSEMETRIC MEASUREMENTS ABOARD A SPACESHIP USING NUCLEAR EMULSIONS

Article by V. A. Blashkovskiy, A. A. (Moscow, U.S.S.R.)  
Kosmicheskaya Biologiya i Meditsina, Moscow, 1971, No. 2, pp. 50-53,  
submitted for publication 8 May 1969

ENGLISH

Ionizing radiation is one of the negative spaceflight factors which affects man in circumterrestrial space. At the flight altitude of the "Soyuz-3" ship a cosmonaut is subjected to galactic cosmic radiation which for the most part consists of fast protons and heavy nuclei. In addition, a cosmonaut is also exposed to the softer radiation of the earth's radiation belt, which in the region of the Brazilian anomaly depends to the flight altitudes of the "Soyuz-3" spaceship. A peculiarity of these types of radiation is that the quality factor can differ from unity. Accordingly, for determining the tissue dose it is necessary to analyze the composition of the ionizing radiations. For this purpose nuclear emulsions were incorporated in the individual dosimeters during flight of the "Soyuz-3" ship piloted by G. T. Borzgovoy. These emulsions were rectangular layers 450  $\mu$  thick with linear measurements 35 x 4.5 mm. BR-2 emulsions were used; these are sensitive to all charged particles, including relativistic electrons. Layers of Ia-2 emulsion sensitive to particles having ionization losses greater than 7 MeV/cm and layers of H-3 and K-4 emulsions which register only heavy nuclei were also used.

Using nuclear emulsions it was possible not only to separate fluxes of singly and multiply charged particles, but also to separate the doses created by corpuscular radiation and background  $\gamma$ -radiation.

The following method was used for this purpose. Layers of Ia-2 emulsion from the same consignment from which the layers were prepared for dosimetry on the "Soyuz-3" ship were exposed to  $\gamma$ -radiation from a Cs137 source in the range of exposure doses from 0.02 to 1 R. The density of the granular background created by fast electrons generated in the photoemulsion absorption of  $\gamma$ -radiation was counted under the microscope in the irradiated and developed layers. The density of developed silver bromide grains per 1,000  $\mu^2$  was determined. Data from calibration of the nuclear emulsions

Antennas

USSR

UDC: 538.56:621.396.67

BOGDANOV, A. A., BRUSIN, I. Ya., and SKVORTSOV, V. D.

"Effect of Photofilm Noise in Optical Processing Systems for the Signals of Synthesizable Aperture Antennas"

Gor'kiy, Izvestiya VUZ--Radiofizika, Vol. 14, No. 1, 1971, pp 114-126

Abstract: Photographic film is used for recording purposes in antennas with synthesized apertures. In ordinary photography, the noise characteristics of this film is unimportant; in antennas of this type, however, they are extremely important since they can spoil the information capability of the system. This article shows that the film noise imposes limits on the antenna's dynamic range and on the number of discernible levels of signal intensity, leading also to a loss in resolving power. The authors also describe a method for measuring the noise parameters, and obtain quantitative results for film type Mikrat-300. In the development of

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USSR

BOGDANOV, A. A., et al., Izvestiya VUZ--Radiofizika, Vol 14, No 1, 1971, pp 114-126

their analysis, the authors refer to an earlier paper (Cutrona, L. J., et al, Proc. IEEE, 54, No 8, 1966) in which this type of antenna is described. Using a formula for the transparency of the ideal film given in that paper, the authors describe an experimental system for determining the factors in that formula.

2/2

- 5 -

USSR

UDC 621.391.175

SKVORTSOV, V.S. (Member, Scientific-Technical Society Of Radio Engineering, Electronics, And Communication imeni A.S. Popov)

"Concerning Use Of The Method Of Successive Analysis For A Qualitative Evaluation Of The Condition Of A Communication Channel"

Radiotekhnika, Vol 27, No 3, Mar 1972, pp 56-59

Abstract: The principles of successive control of the quality of a communication channel are presented. On the basis of these principles, an automatic device is described for control of discrete communication channels with independent and correlated errors. Methods are given for calculating the basic units of the control device and two block diagrams are presented. 3 fig. 3 ref. Received after further improvement 20 Apr 71.

1/1

- 34 -

USSR

UDJ 621.394.18

SKVORTSOV, V.S.

"Method Of Increasing The Noise Immunity Of The Receiver Of A Synchronous Triggering Signal"

Elektrosvyaz', No 2, 1972, pp 60-65

Abstract: The block diagram is discussed of a device for reception of recurrent signals of synchronous triggering with respect to a test segment [zachetnyy otrezok]. A method is shown of decreasing the probability of false selection of recurrent signals out of the noise as the result of automatic control of the length of the test segment by the introduction into the receiving device of an erasing zone during registration of binary signals. An example is given of the use of the formulas derived. 2 fig. 8 ref. Received by editors, 2 Feb 71.

1/1

USSR

NOSACHEV, L. V., SKVORTSOV, V. V.

UDC: 629.78.533.95

"Study of Slow Ions in a Stream of Rarefied Plasma Using a Multiple-Electrode Probe"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta [Scientific Writings of Central Institute of Aerodynamics and Hydrodynamics], 1973, 4, No 3, pp 32-40 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 11, 1973, Abstract No 11.41.83, from the resume)

Translation: Results are presented from studies of the mean energy and concentration of slow ions arising due to recharging in a stream of a rarefied plasma during the course of laboratory experiments on ionospheric aerodynamics. The measurements were performed using a multiple-electrode probe which performed spatial separation of the streams of fast and slow ions. It was established that the mean energy of slow ions can be compared to the temperature of electrons in the stream, while the concentration of these ions, under conditions typical for experiments on ionospheric aerodynamics, is more than an order of magnitude less than the concentration of primary ions. 4 Figures; 1 Table; 8 Biblio. Refs.

1/1

- 84 -

USSR

UDC 911.3:616.34(575.1)

SHATROV, I. I., POKROVSKAYA, M. P., KRASKINA, N. A., BRAYNINA, R. A.,  
ELKIN, I. I., SKVORTSOV, V. V., KILESSO, V. A., BUNIN, K. V., NIKIFOROV,  
V. N., POKROVSKIY, V. I., and STARSHINOVA, V. S.

"Current Status of Typhoid"

V sb. Materialy XV Vses. svezda epidemiologiv, mikrobiologov i infektsion-  
istov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference  
of Epidemiologists, Microbiologists, and Infectious Disease Specialists,  
Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269  
(from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

Translation: During the last seven years, the incidence of typhoid has  
decreased each year by 6-7% on the average in this country. Maximum drops  
were observed in the Belorussian SSR, Kazakh SSR, Lithuanian SSR, Latvian  
SSR, Armenian SSR, and Estonian SSR; minimum drops were found in the Uzbek  
SSR and Kirghiz SSR. During the last two years, the incidence of typhoid  
was 10% higher among rural residents than among urban residents. In com-  
parison with 1964, a drop in incidence of approximately 40% was observed;  
in rural locations, the drop was 23%. The leading significance of the  
water factor in transfer and distribution of the agent of typhoid is  
1/2



USSR

SHATROV, I. I., et al., Materialy XV Vses. syezda epidemiologiv, mikro-  
biologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th  
All Union Conference of Epidemiologists, Microbiologists, and Infectious  
Disease Specialists, Theses Reports, Part 1 -- collection of works), Moscow,  
1970, pp 262-269 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract  
No 3.36.258)

confirmed. Of decisive importance, particularly in recent years, is the  
nutritional (milk) factor of typhoid transfer and distribution.

SKVORTSOV, YU. K.

mechanical engineering

CONTACTLESS METHOD OF MEASURING VELOCITY OF IMPACTING ELEMENTS

Yu. K. SKVORTSOV, A. V. NIKHAYLOV, Yu. K. SKVORTSOV, V. A. SAKHNOV (Moscow)

The essence of the method being studied is that the cavity in a body in which the impacting element moves is excited at the corresponding wave length  $\lambda_0$  as a high-frequency cavity resonator, retuned periodically as the impacting element moves due to the change in longitudinal size of the resonator, and the frequency of retuning of the resonator is recorded. The resonance occurs for a cylindrical cavity resonator at moments when the length of the resonator is equal to a whole number of half waves  $\lambda_0/2$ , where:

$$L = n \cdot \lambda_0 / 2$$

$\lambda_0$  is the wave guide number of the wave in the cylinder, which is analyzed as a circular wave guide;

$\lambda_0$  is the critical wave length for the type of wave selected.

The frequency of retuning of the cylindrical cavity resonator  $F$  (1/time between neighboring resonant peaks) depends on  $\lambda_0$  and the rate of motion of the impacting element  $V$ :

$$F = 2V / \lambda_0$$

Recording frequency  $F$  allows us to find the distribution of velocity on the path of the impacting element.

Figure 1 shows the diagram of measurement of the velocity of the impacting element in an air hammer. Impacting element 2 moves in body 1, changing the length of the cavity resonator 3, which is excited at wave length  $\lambda_0 = 8$  mm as a cylindrical cavity resonator by circular wave guide 4, passing through the insert 5 and fed by generator 6 through attenuator 7 and guiding tap 8. Insert 5 is inserted into

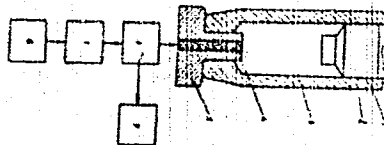


Figure 1. Block Diagram of Measuring Installation.

144

USSR

UDC: 621.314.26(088.8)

VARFOLOMEYEV, G. N., BUZYKANOV, A. A., SULAYEV, G. M., and  
SEVORTSOV, Yu. M.

"Frequency Tripler"

/Pusko-nalodochn. upr. tresta "Sibelektromontazh"/ Avt. sv. SSSR  
(Start-Up and Repair Management of the "Sibelektromontazh" Trust,  
Author's Certificate USSR) Class 21a<sup>4</sup>, 6/01; 21d, 51, (H Olf  
35/00, H 03b 19/10), No. 276174, Application 11.02.69, Publication  
8.10.70 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No.  
3D81P)

Translation: A frequency tripler with a resonance circuit contain-  
ing a stabilitron connected in series with the voltage supply cir-  
cuit is proposed. An additional stabilitron, connected oppositely  
and in series with the first, is introduced as a simplification,  
to exclude the damping of the oscillatory circuit by the bias cur-  
rent and to weaken the even harmonics.

1/1

012  
UNCLASSIFIED  
PROCESSING DATE--20NGV70  
TITLE--DIACETYLENE DERIVATIVES. XVII. SYNTHESIS OF OMEGA,PHENYLENYNE AND  
OMEGA,PHENYLENEDIYNE ETHERS, THIO ETHERS, AND AMINES -U-  
AUTHOR--(04)-VOLKOV, A.K., SKVORTSOV, YU.M., DANDA, I.I., SHOSTAKOVSKIY,  
M.F.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 897-902  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ACETYLENE, CHEMICAL SYNTHESIS, THIO, ETHER, CONDENSATION  
REACTION, HYDROGENATION, AMINE DERIVATIVE, AROMATIC AMINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/1332  
CIRC ACCESSION NO--AP0135006  
STEP NO--OR/0366/70/006/005/0897/0902  
UNCLASSIFIED

2/2 012  
 GIRC ACCESSION NO--AP0135006  
 ABSTRACT/EXTRACT--(U) GP-0- UNCLASSIFIED PROCESSING DATE--20NOV70  
 ABSTRACT. THE CONDENSATION OF PHC TRIPLE  
 BOND CC TRIPLE BOND CH (1) WITH RCH (R IS ET, BU) IN THE PRESENCE OF KOH  
 GAVE 65-70PERCENT PHC TRIPLE BOND CCH:CHOR. SIMILARLY (WITH RSH), PHC  
 TRIPLE BOND CH:CHSBU AND PHC TRIPLE BOND CCH:CHSR PRIMELIR PRIMEI EQUALS  
 CYCLOHEXYL) WERE PREPD. THE REACTION OF PHC TRIPLE BOND CCH WITH  
 ROCH:CHC TRIPLE BOND CH GAVE PHC TRIPLE BOND CC TRIPLE BOND CCH:CHOR.  
 ANALOGOUSLY, PHC TRIPLE BOND CC TRIPLE BOND CCH:CHSET WAS PREPD. THE  
 SEALED TUBE REACTION BETWEEN 1 AND HNET SUB2 GAVE PHC TRIPLE BOND  
 CCH:CHNET SUB2. THE HYDROGENATION OF THE ABOVE COMPODS. GAVE THE  
 EXPECTED SATD. ETHERS AND THIO ETHERS.  
 ORG. KHIM., IRKUTSK, USSR. FACILITY: IRKUTSK. INST.

UNCLASSIFIED

USSR

UDC 669.295.48

SKVORTSOV, Yu. N., MOROZOV, Ye. I., USOV, V. N.

"Briquetting of Titanium Alloy Chips"

Tekhnol. Legk. Splavov. Nauch.-tekhn. Byul. VILSa [Technology of Light Alloys, Scientific and Technical Bulletin of All-Union Institute of Light Alloys], No 5, 1971, p 112, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G266 by G. Svodtseva).

Translation: Chips of Ti alloys were pressed on vertical and horizontal hydraulic presses with specific pressure 4-9.5 t/cm<sup>2</sup>, briquette diameter 80-120 mm. With a specific pressure of 9 t/cm<sup>2</sup>, briquette density was 3.6-3.8 g/cm<sup>3</sup>, loose residue 0.1-0.3%. The briquettes produced were added to the charge: 36% during smelting of ingots of Vt1-1 alloy and 40% during smelting of ingots of OT4 alloy.

1/1

- 45 -

USSR

UDC 533.9.07

ARETOV, G. N., VASIL'YEV, V. I., LOTOTSKIY, A. P., and SKVORTSOV, YU. V.

"Parameters of the Nitrogen Plasma Jet of a Heavy-Current Pulse Accelerator"  
Leningrad, Zhurnal Tekhnicheskoy Fiziki, No 11, Nov 73, pp 2324-2331

Abstract: Experiments on the generation of a jet of nitrogen plasma in a coaxial accelerator with a quasi-steady plasma focus are described. Devices of this kind make it possible to obtain streams of ionized gas with a high directed velocity, as well as high-temperature zones with dense plasma. The discharge current reached 500 ka at a voltage in the condenser battery of up to 10 kv. The parameters of the obtained plasma were measured. Its density attained  $6 \cdot 10^{17} \text{ cm}^{-3}$ , the velocity in the front was  $1.5 \cdot 10^7 \text{ cm/sec}$ , the energy of the plasma stream amounts to about 4 kilojoules. The tendency of change of the plasma density in the focus in relation to the initial conditions is ascertained. 8 figures. 11 references.

1/1

USSR

Television

UDC 621.397

GORCHAKOV, B. M., SKVORTSOVA, A. P.

"Coding Television Images by Glass Fiber Optics"

V sb. Radioelektron. v nar. kh-ve SSSR (Radio Electronics in the Soviet National Economy--collection of works), Kuybyshev, 1971, pp 14-17 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G294)

Translation: The authors consider the feasibility of coding secret documents by using irregularly cabled glass fibers. It is proposed that two cables with identically disordered fibers be made by disordered winding of the fibers on part of a cylindrical drum with regular winding on the remaining part of the drum. The resultant cable is cut into two sections, one being used on the transmitting end, and the other on the receiving end of the system. Use of this coding method is difficult because of the instability of the amplitude and position of the TV raster. M. N.

1/1



USSR

UDC 547.785.5'791.8.07

SKVORTSOVA, G. G., DOMNINA, Ye. S., GLAZKOVA, N. P., and MAKHNO, L. P.,  
Irkutsk Institute of Organic Chemistry, Siberian Branch Academy of Sciences  
USSR

"The Interaction of N-Vinylazoles and N-Vinylindole With Halohydrins"  
Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 73, pp 777-780

Abstract: The characteristics of the reaction of halohydrins (ethylene chlorohydrin, tetramethylene-1,4 chlorohydrin, 1-chloropropylene-2,3 -chlorohydrin, trimethylene-1,3 bromohydrin, ethylene fluorohydrin) with N-vinyl-imidazole (I), -benzimidazole (II), -benzotriazole (III), and -indole (IV) were studied. I and II reacted at the 3-position (at the N not bound to the vinyl group) with the formation of inner quaternary salts in reactions with  $\text{AgNO}_3$  and  $\text{KCNS}$  and the hydroxyl group with I in a reaction with  $\text{HI}$ . The vinyl group of I and II in the 1-N-position remained unchanged after the reaction with halohydrins. III reacted with the latter mainly over the vinyl group. The reaction of IV proceeded with vinyl polymerization and simultaneous formation of a quaternary salt. Brightly colored polymers of varying composition formed in this reaction.

1/1

- 16 -

USSR

UDC 547.735.5:541.67:543.422

SHOSTAKOVSKIY, M. F., GLAZKOVA, N. P., DOMENINA, YE. S., BELIKUSOVA, L. V.,  
and SKVORTSOVA, G. G., Irkutsk Institute of Organic Chemistry, Siberian Branch  
of the Acad. Sc., USSR

"Reaction of N-Vinylimidazoles with Alkyl Halides"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 7, Jul 71, pp 958-960

Abstract: Conditions were studied for the reaction of N-vinylimidazole and N-vinylbenzimidazole with methyl iodide, ethyl, isopropyl, and butyl iodide and bromide, and with methylene chloride. The reaction occurs without a solvent, with a 2-3 fold excess of alkyl halide at reflux temperature, leading to the formation of quaternary salts. It was established that N-vinylimidazole is more reactive toward alkyl halides than N-vinylbenzimidazole, probably because of its higher basicity. Alkyl iodides react faster than alkyl bromides; alkyl chlorides are completely unreactive. Using quantum mechanical calculations it was shown that most of the  $\pi$ -electron charge was localized at the "pyridine" nitrogen atom.

1/1

- 14 -

019  
UNCLASSIFIED  
TITLE--HOMOLYTIC REACTION OF N VINYLPHENOTHIAZINE WITH VINYL BUTYL ETHER  
-U-  
AUTHOR--(05)--SHOSTAKOVSKIY, M.F., SKVORTSOVA, G.G., KURDY, G.N., SIDORENKO,  
L.L., VORONOV, V.K.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR, 1970, 192(1), 115-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ORGANIC-AZINE COMPOUND, ETHER, CHEMICAL REACTION MECHANISM,  
ORGANIC AZO COMPOUND, COPOLYMERIZATION, THIOL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/1879  
CIRC ACCESSION NO--AT0132141  
STEP NO--UR/0020/70/192/001/0115/0117  
UNCLASSIFIED

CIRC ACCESSION NO--AT0132141  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. IN THE PRESENCE OF  
AZOBISISOBUTYRONITRILE N VINYLPHENOTHIAZONE (I) (W. REPPE, 1956) FORMS  
POLYMERS. I REACTS WITH BUOCH:CH SUB2 (III) TO GIVE  
N, (6, (VINYLOXY)HEXYL)PHENOTHIAZINE (IIII) AND COPOLYMERS. THE STRUCTURE  
OF III WAS PROVEN BY PARTIAL SYNTHESIS: PHENOTHIAZINE PLUS BRCH SUB2  
(CH SUB2) SUB4 CH SUB2 OET YIELDS N, (6, ETHOXYHEXYL) III ANALOG (IV).  
HYDROGENATION OF III GAVE IV. A FREE RADICAL MECHANISM IS PROPOSED FOR  
THE FORMATION OF III.  
IRKUTSK, USSR. FACILITY: IRKUTSK. INST. ORG. KHEM.

UNCLASSIFIED

1/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--ALPHA HALOETHYL ESTERS OF FURAN, 2-CARBOXYLIC ACID -U-

AUTHOR--(04)-SHOSTAKOVSKIY, M.F., SKVORTSOVA, G.G., AN, V.V., MANSUROV,  
YU.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,910

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, FURAN, CARBOXYLIC ACID ESTER,  
CHEMICAL PATENT, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3004/1846

CIRC ACCESSION NO--AA0132111

STEP NO--UR/0482/70/000/000/0000/0000

UNCLASSIFIED

2/2 008

CIRC ACCESSION NO--AA0132111

UNCLASSIFIED

PROCESSING DATE--0400070

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ALPHA HALOETHYL ESTERS OF

FURAN, 2, CARBOXYLIC ACID WERE OBTAINED BY TREATING THE VINYL ESTER OF

FURAN, 2, CARBOXYLIC ACID WITH H HALIDE AT ROOM TEMP.

FACILITY:

NOVOSIBIRSK INSTITUTE OF ORGANIC CHEMISTRY.

UNCLASSIFIED

009  
UNCLASSIFIED  
PROCESSING DATE--18SEP70  
TITLE--ADDITION OF MERCAPTANS TO N VINYL DERIVATIVES OF INDOLE AND  
IMIDAZOLES -U-  
AUTHOR--(04)-SKVORTSOVA, G.G., GLAZKOVA, N.P., DOMNINA, YE.S., VORONOV,  
V.K.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 167-72  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--MERCAPTAN, IMIDAZOLE, INDOLE, BENZIMIDAZOLE, MOLECULAR  
STRUCTURE, NMR SPECTRUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/1112  
CIRC ACCESSION NO--AP0104510  
STEP NO--UR/0409/70/000/002/0167/0172  
UNCLASSIFIED